A FEW WORDS

ON

VACCINATION.

By MAJOR GREENWOOD,

M.R.C.S., L.R.C.P., LOND.

SECOND EDITION.

Price Sixpence.

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PREFACE

TO THE SECOND EDITION.

My object in publishing this Address is to spread abroad, if possible, a wider knowledge of what Vaccination is, what benefit we have derived in the past, and what we may expect from it in the future.

At the present time, when nearly every day fresh tracts and pamphlets are being launched by the Anti-Vaccination Society against this most salutary practice, when journals instituted for this end only are given a large publicity by means of a gratuitous distribution, and when no opportunity is lost to arouse the ignorant prejudices of the poorer and less educated classes against the Vaccination Acts in this country, it seems to me only right that some effort should be made to stem this torrent, to point out some of the Benefits of Vaccination, and above all, to show how strongly its practice is supported by the latest development of Modern Science.

I have purposely avoided all statistics, as I believe the proper understanding of these is only possible to experts and the value they possess is obviously dependent on the accuracy with which they have been compiled, as well as on the extent and character of the data on which they rest; for as Carlyle has well said, "They must be weighed as well as counted."

MAJOR GREENWOOD.

November, 1886.

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*A few Words on Vaccination.

MY subject is one which, I trust, will be of interest to everybody, not only on account of its own intrinsic merit as dealing with one of the burning questions of the day, but as a subject of prime importance, affecting as it does, the lives and welfare of all of us, and about which there is much ignorance, even among those whose education and training should warrant a better understanding.

When, nearly a hundred years ago, Dr. Jenner first promulgated his theory of vaccination, although, in his own mind he may have foreseen its great importance in the future, as a means of preventing, or at least curtailing the ravages of what (up to that time) had been the greatest scourge of suffering humanity, he could scarcely have comprehended the future development of his great discovery, the vicissitudes it would have to undergo, how, at first contemned by many, it would gradually make its way, slowly but surely, till its primary importance in preventive medicine as affecting the public health was recognized by the legislatures of nearly all civilized nations.

Before proceeding further, it may be as well to briefly discuss vaccination from its origin to the present time. Towards the latter end of the last century, an eminent physician, whose natural shrewdness of observation had been heightened by long application to medical practice,

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* Originally delivered as a lecture, before the Matron's Aid Society and Midwife's Institute, September 10th, 1886.

after many years of patient study and experimental research, took the world by surprise by publishing a short treatise pointing out where small-pox was vulnerable, and how its fatality might be greatly diminished. We can easily imagine that he must have seen with dismay the wholesale destruction caused by small-pox, although doubtless he contended against it with all the science then available, and left no known means untried to mitigate its rigour, yet must he have often felt sick at heart on finding how useless were all his remedies against this disease, which struck down both the Prince and the Peasant, and year by year added its ghastly quota to the already overflowing bills of mortality in the great towns of England. Many, I daresay, can scarcely imagine the state of things in those days which preceded vaccination with regard to the prevalence of small-pox; we are told by the writers of the period, that in the busy thoroughfares among a much thinner population, the scarred and maimed victims were met with on every side, and that there was scarcely a household that had not lost through it one, or more of its members; the Monarch was no more exempt from it than was the humble citizen, and the latter seeing this, readily concluded that the disease must be heaven sent, from which neither wealth nor science afforded protection. The last aspect of the question, viz., the frequency with which all classes of society suffered from this disease in the pre-vaccination era, is worthy of much attention. The Consort of William III., died of small-pox; the King was also deeply scarred by the same, as was also Queen Anne who succeeded him. Louis XV. of France, died of this disease, and many of the Statesmen and Men of Eminence of the 18th century, are reported by their biographers to have carried to their graves its disfiguring traces. Most of us can remember the consternation caused in crowded parts of London during the epidemic of small-pox a few years ago, which was augmented by the frequent appearance of the well-known ambulance of the Asylums Board. Yet this panic was one of the best evidences of the unusual severity of the disease, for in days prior to vaccination people regarded the presence of small-pox in their midst as one of the necessary evils of existence and unless its fatality was more than usually appalling, they took little notice of it. This resignation came the more natural seeing that the disease was by no means limited to the poorer classes.

Anti-vaccinationists are never tired of ascribing our present improvement to our better sanitation: that, they urge, is the only reason why the population is not now decimated as in those times; why the victims of that disease do not now meet us on every hand: surely the same improved sanitation protects us equally from other contagious diseases, such as scarlet fever, etc., but there is no evidence that any of these diseases were ever so rife among the upper as among the lower classes of the community.

The history of the past leads us to believe that small-pox was far more prevalent among all classes than any of the other so-called zymotic diseases, that the virulence of the latter was much more limited to the lower or insanitary classes, so that I think we may reasonably conclude, that although improved sanitation by itself may have diminished notably the virulence of all zymotic diseases during the last century, yet if we compare the past history of these, and their proportionately diminished severity since Dr. Jenner's discovery, we shall be forced to the irresistible conclusion that there is, in the case of small-pox, a mitigation out of all proportion to that of the others, and one that can only be rationally explained by taking into consideration the effects of the great weapon placed in our hands by the observation of that physician, who, at one and the same time, struck a deadly blow at the greatest scourge of mankind, and laid the foundation of the most effectual treatment of those now recognized as germ diseases.

The successful study of bacteriology at the present time is advancing rapidly, and promises, before many years, results of whose value we can hardly form any conception. This only we know, that deadly foes of the human race, who for untold ages have worked havoc among us, causing suffering and death, compared with which all due to war or violence, is scarcely worthy of notice, all-powerful by reason of their invisibility, impregnable by reason of our ignorance of their nature, are slowly but surely being undermined by the hand of science; by whose assistance before long this inequality will be remedied, and mankind no longer be forced to stand powerless and see his fellows fall, stricken down by an irresistible enemy.

All zymotic diseases are undoubtedly much less virulent now than they were a century ago; indeed, typhus has been all but stamped out, and other diseases of a still more deadly character, that used to scatter death broadcast from one end of Europe to the other, such as Black Death, the Plague, etc., seem to have disappeared altogether from this quarter of the globe. On the other hand a fresh pest, unknown to our forefathers, has unfortunately arisen, whose deadly breath the people of this country have already experienced on two occasions, and may, alas, at no distant period, be called upon to face again. I speak of "cholera," from whose blighting influence some of the fairest parts of Europe are only just beginning to recover.*

Do not think that I wish to under-estimate sanitation; from many of these diseases it has been our only weapon in the past, and it must also be confessed that it is our only hope in the present.

Do not for a moment think that I decry its value, mighty has been its work in the past, and still more mighty and beneficent will be its influence in the future; truly the great difference between the civilization of the past and of the present, I consider mainly one of sanitation, and, as the welfare of the individual depends essentially on the healthy mind in a healthy body, so does the material welfare or civilization of the nation, which is but an aggregation of individuals.

It was a quiet country side in Gloucestershire, where Dr. Jenner first began to study his profession, as apprentice to the worthy surgeon of Sudbury. In this village his enquiring mind first began to speculate on the subject which was to be the great work of his lifetime, and to culminate in his theory of vaccination, which, after bearing the test of the experience of nearly a century of the greatest intellectual activity the world has ever known, still is in its main features the same as when its author first promulgated it.

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* Cholera never made its appearance in Europe until the commencement of the present century.

A born physician, he was unmindful of nothing that had the slightest reference to his profession; his observant eyes were everywhere; trifles light as air were often to him of supreme importance, and none recognized more thoroughly than he upon what straws great discoveries may turn. The fall of an apple, we are told, first gave Newton an idea of the law of gravitation; the kettle hissing on the hob pointed out to Watts how steam might be made to revolutionize the world; so a few unsightly sores on the fingers of a milkmaid first led Jenner on the way to his great discovery. And as with Newton, simple as the falling apple may seem to us now, this, and kindred observations had to be studied and thought over many a year before the great theory of gravitation was evolved, so with Jenner, thirty years had to elapse before the now experienced physician felt himself in a position to give to the world his matured work.

The county of Gloucester was then, as now, celebrated for its dairy produce, and in Sudbury most of the inhabitants were more or less engaged in dairy work: the keen eye of the embryo physician was caught by the frequency with which a particular eruption (cow-pox) was to be seen on the fingers of those employed in milking. On further enquiries he found that this arose from contact with udders of cows affected in a similar manner, and that it frequently happened that cows infected the milkers, and they in turn infected other cows. He also showed at a later time that the same infection might be caused by milkers who had developed a similar skin affection through attending to the heels of horses suffering from a disease known as "grease," proving that this and cow-pox were allied.

When the young and highly trained physician, went forth into the world to practice his profession, he had not long to wait before he saw small-pox in all its phases. He made himself acquainted with all that was then known of the disease, and probably ere long his professional experience called to mind the similarity between cow-pox and mild forms of small-pox. That there was some close relation between these he became more and more convinced, and further when by means of organized enquiries, he was enabled to ascertain *that in milking communities where cow-pox was rife, small-pox was almost unknown.* It had long been a belief among dairymen and others who were in frequent contact with cows, that they had a special immunity from small-pox ; and this he was personally acquainted with, for he remembered how often he had heard the belief expressed in his apprentice days, and how it had been one of the earliest observations that had set his mind to work out this subject.

Further experience showed him that cow-pox was a very mild form of disease, and that its inoculation * in man was seldom followed by any but the most trivial symptoms.

Inoculation with small-pox matter was then very commonly practiced, and Jenner had every facility for comparing this with vaccination ; nor must it be forgotten that as an experimentalist he had opportunities which will never occur again to any scientist, and of which he availed himself to the utmost.

In the age in which he lived it was neither forbidden by law nor by public opinion to inoculate the human subject with virulent animal poisons, and in his valuable treatise he has left a record of many such examples ; one I may instance, in which the soldiers of a certain regiment were inoculated with small-pox, all of whom developed the usual symptoms with the exception of a few who had undergone the then new process of vaccination.

At this period, when vaccination was justly on its trial, patients were often inoculated with small-pox afterwards to test the value of the new protection, and it was not till the evidence in favour of it, arising from experiments of this kind, was overwhelming, that Jenner felt he could conscientiously publish his discovery.

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* By inoculation is meant the transference into the system of any animal poison, this is usually done by injecting matter containing it under the skin or by rubbing it into the abraded surface of the same.

These experiments can never be repeated; but, much as we may now condemn such in accordance with the sentiment of the age, we should not logically refuse to profit by the important facts thereby demonstrated.

This, then, was the origin of the theory of vaccination, which, since Jenner's time, has in innumerable instances proved its efficacy as a check to small-pox.

Some have objected to vaccination on the ground that it does not protect absolutely from small-pox, that after the most efficient vaccination, individuals sometimes suffer from the disease, nay, even to die of it; but these can be proved to be so manifestly exceptions, that they may be said to prove the rule; nor should we forget that Jenner never claimed more than that vaccination gives the same protection that a previous attack of the disease afforded; and although there are many cases on record of small-pox being contracted several times, still the rarity of this, however, had attracted the attention of observers long before Jenner's time, and had even led to a practical application in this country by Lady Wortley Montague by the introduction of inoculation. The danger of this method when compared with vaccination was so conspicuous, that shortly after the introduction of the latter, legislation in several European countries forbade the former practice, and wisely too, for although inoculation has doubtless saved many lives, it cannot be denied that it has caused the loss of more than is justifiable. In vaccination we have the same protection, but with a mortality so infinitely less as to be almost inappreciable. It is worthy of note, too, that although cow-pox and small-pox are identical in their origin, after inoculation, deaths, when they occurred, were due to the resulting small-pox, *but in no recorded case has death resulted from cow-pox after vaccination;* in the very rare instances in which death has followed vaccination, it has been indirectly caused and by preventable causes, that is, by conveying other animal poisons into the patient's system, or by poisons generated in the affected part, either by internal or external influences.

The identity of cow-pox and small-pox was proved a few years ago by Badcock and Ceely, who independently inoculated cows with the virus of small-pox, and succeeded in producing in them typical cow-pox, the lymph being used over and over again for vaccination with the usual and beneficial results.

I will here explain briefly, what vaccination is, and how we interpret its phenomena by the light of modern science; but to show this clearly, I must say a few words about the modern theory of germ disease, in which I will endeavour to use as few learned words as possible.

If we look around, and scan the spacious fields of air; if we regard the solid earth, and all the parts appertaining to it; or again, if we turn to the world of waters surrounding our earth, look where we will, life meets us on every side.

Man, before even he had a language to acknowledge the same, must have recognized this from observing the various inhabitants of the earth, air, and water; but at every epoch of his history, his ideas of the extent of this life must have undergone great expansion; with increasing knowledge and education he must have been constantly finding life, where before he had seen none; what to him a short time before had been but inert rock, he now finds wholly composed of living animals; what he had regarded as only water, the magnifying glass proves to his wondering eyes to be full of myriads of living creatures. The same agent shows the air illumined by the sunbeam flashing through it to contain its full complement of life in those tiny motes which have often been thought to be mere phantasies of the eye. Thus far science has met with little difficulty in extending her domains; all the forms of life above enumerated lie here before us, and can be seen with our microscopes. There is no doubt of their existence, and seeing is verily believing; but beyond all this, science has entered upon a new stage; she has gone on from a knowledge of life that she can see, to a conception of that life, which up to the present time in its existing forms she cannot see.

If we pass through a field of wheat, and examine separate ears, we find many of them abortive, darkened in colour, and with kernels more or less destroyed; if we examine a cabbage and note how the substance of the leaf has been curiously eaten away, till perhaps naught but the veins remain, we know at once that this work of destruction arises from the development of some form of life: this, in nearly all cases, can be found and identified; but probably its existence was guessed at, from its work, long before it was actually seen. These instances are common and familiar ones, and will serve to point out the ordinary sequence of events in tracing out the history of minute and unknown forms of life. First, we have regular phenomena over which we constantly think and wonder, always the same and unvarying, or, if changing, always changing in one definite order; thus, it may be, after ages of study and observation, man succeeds in tracing, step by step, the author of the phenomena, till it stands revealed, then, if the work be good and useful, we may encourage it, but if noxious, great is our vantage ground for destroying it, for have we not wormed ourselves into the inmost recesses of its life history, and learned what it likes and what it dislikes, what is beneficial and what pernicious to it.

I would also call your attention to another point which, in all this huge field of life, I must ask you to keep well in mind; however we may divide and subdivide the various beings endowed with *life*, that subtle principle, of whose origin and cause we know nothing, is identical in all living creatures; neither must we forget that man, in a biological aspect, is but an animal, and, as such, but the head of a series whose lowest member may be the unknown germ, of whose very existence, except for its handiwork in our midst, we should be unable to prove.

This wonderful fellowship of life is bound together by fixed and unalterable laws which are peculiar to them, and do not apply to inanimate creation. I may mention some which will be familiar: all living creatures are reproduced in some way or other by their parents. They grow, that is they gain subsistence for a certain period, from the medium in which they are placed; in their turn they give birth to others like them and finally die. This is also the life history of the meanest germ; the life history of man is nothing more.

Among the great men who have rendered the present century illustrious by the advances they have made in our knowledge of *life*, none stands out more conspicuously than Charles Darwin, the immortal author of the "Origin of Species;" and for the further elucidation of my subject, it is important that we should consider for a few minutes the bearing of some of the laws enunciated by that great man, laws which now stand on as firm a pedestal as the law of gravitation itself. To us, who at the present time are mainly considering 'germ history' and 'germ disease,' those laws entitled "Natural Selection," and the "Struggle for Existence," are the most important. The terms in which they are formulated almost explain themselves. Interpreted more freely, they imply that all living creatures are, by very reason of their existence, doomed to struggle, without ceasing, for that existence; that this struggle ends only with life: and, secondly, they who are foremost in the struggle, who have in them some natural advantage over their fellows, will, by natural selection, survive and hand down this advantage to their offspring, who will live in the time to come; while slow, sure, and perhaps not painless extinction is the lot of their less fortunate fellows.

The Poet has said "Beautiful is Nature," the Scientist might more truly add "Terrible is Nature;" her beauty, when estimated in its moral aspect, is the beauty of the tiger, magnificent in hue, perfect in proportion, but with muscles firmly knit, and strong back arched to spring on its helpless prey. Nature cares not for the weak; Napoleon remarked, Providence always inclined to the side with the strongest battalions; so Nature's one great aim and object is ever to push forward the strong, and stamp out the weak. We may not repine at this, for is it not by the action of this very law that we now hold the proud pre-eminence we do over all other animals? If we look at the laws in section, that is to say, as applied to special races, or divisions of animals, or even individuals, we must understand clearly, that whatever Nature does for any of these, their own special good is all she aims at. For example, if by natural selection she gradually increase the power of one class to prey on another, she at the same time may be developing in the class preyed on, resources enabling them to escape more readily from their destroyers.

The one great end and aim of all life is to live, but it by no means follows that it is necessary to let live, for the latter may be quite inconsistent with the former, and the life of one species is often dependent on the death of another. So man strives to live, nor does he care greatly if in so doing he destroy others to maintain that life. So, also, do the low forms of life, of which we speak as germs, destroy man when they have gained entrance into his system, as it is by his loss alone they can live and propagate their kind. What is death to him is life to them; they, like him or his kind, have been lying in wait on many occasions, for their prey, and, having found it, who shall wrest it from them?

There may be some who think it novel that living beings should be able to thrive and multiply in our blood; when we regard the numberless and widely varying media in which life is found abundantly, why should animal blood be exempt? If we regard its constituents, we find it has many points of advantage over other media; and in the case of animal parasites, are we not acquainted with many such, both internal and external?

The believer, then, in the germ theory, considers many infectious fevers to be but diseases produced by the presence of a living germ or bacterium in our blood; or, in other words, by an internal parasite, and this is all that I mean by germ diseases, among which I reckon small-pox, scarlatina, cholera, hydrophobia, and many others.

Some may think that I might have told this in fewer words, and so I might, if my only object had been to tell simply what germ diseases were; but I judged it necessary, as my intention was to show what the scientific object of vaccination is, that I should give at least some sort of idea of the actual affinity between life, as we find it, growing and multiplying in our blood, and life, as we meet with it, outside our bodies in the usual haunts of the animal world.

As I have pointed out, the first object of every animal, or race of animals, is to preserve itself and crush its foes; so is it necessary for the animal man to use every means he can, and leave untried no resource, to unearth and destroy his deadly foes; and it is only by knowledge of the life history of these germs or kindred forms of life scattered throughout the organic world, that he is enabled to make for himself weapons of offence and defence. Since our knowledge has increased in this direction, we have already made considerable progress in our power of destroying these noxious agencies.

With regard to defensive measures, we now know there is one charm of paramount importance—scrupulous cleanliness in ourselves, in our homes, and in our surroundings, no defective drains in our houses, no bad dust-holes in our gardens, no reeking muck heaps in the streets in front of our houses—for these, are the cover in which lurk our insidious foes, it is from such vantage ground that they creep upon us, with what success how many a hapless family can tell us, which, through them, has lost Father, Mother, Sister, or Brother.

With regard to offensive measures, when we have them in our midst, we have learnt to bring into contact with them those substances whose properties we know from experience are deadly to them; secondly, to expose them to the assault of those natural enemies who are stronger than they, and from whom we have little to fear; thirdly, to destroy in some way the food on which such germs subsist, and the last method is most important, as the Basis of the

Theory of Vaccination and the still later theory of Pasteur, with regard to hydrophobia. "He takes my life who takes the means whereby I live:" and this is what the small-pox germ must find when he has lighted upon one who has previously been treated by the followers of Jenner. The human blood is a very complex medium, it contains probably much that is capable of nourishing many germ diseases; it nearly always contains in the natural state, matter on which the small-pox germ can thrive abundantly; but the cow-pox germ, closely allied to it, requires exactly the same food; so that by voluntarily giving the latter entrance into our system, and permitting it to develop there, we enable it to use up in its own growth this material which nourishes it, so that, when a little later, perhaps, we receive involuntarily, a visit from the more dangerous foe, the latter finds the soil no longer suitable, and rapidly dies out. Another theory is that the germ, developing within the system, gives rise to new matter of an excretory character not only deleterious to itself, but to any subsequent invading germ of a similar kind.

It is by explanations of this kind that we can account for the partial efficacy of inoculation, or the frequently observed fact, that they who have once suffered from any of these germ diseases, are little prone to attacks of the same disease, for the first colony of the germ has so devastated the country, that the second can either make no landing, or from want of sustenance rapidly expires.

In like manner, if we turn a flock of sheep into a field, and allow them to eat up all the grass, and a little later we send another flock into the same field, the latter must surely die if they cannot wait till the grass grows again; so, when one colony of germs has exhausted the pabulum in the blood of the individual, no other colony can be expected to exist there till this pabulum has been reproduced, a process which, if it take place at all, occurs only after the lapse of a very considerable period.

This, then, I wish all to understand; when the vaccinator makes those slight scratches on the arm, which all are familiar with, he is, in reality, passing into the system a modified form of small-pox, with every confidence that, should he be successful, or, to use a familiar expression, if the vaccination take, he will render that system more or less impervious to the future attacks of this disease.

I trust none will be led away by the fallacious argument of those who are opposed to vaccination, that because in vaccination we inoculate a form of small-pox we are in reality fostering and perpetuating the disease, for in no recorded instance *has cow-pox in the human patient ever shown the least tendency to manifest infectious properties* except by direct inoculation, in this alone, proving the disease to be very different from small-pox, although, doubtless, both have sprung from a common origin, and the latter may be made to resemble the former by passage through the blood of the cow.

Of one thing we are quite certain, the germs of these two diseases are, by reason of their affinity, directly antagonistic; that is, one requires for its sustenance that which alone can support the life of the other, and as this matter, vital to both, is limited in quantity, it follows that success of one in the struggle for existence, is infallibly death and extinction to the other. Left to themselves, there is, unfortunately, little doubt that the small-pox germ would extinguish and destroy its rival; but this is by no means so certain when man comes forward to support the latter, and it behoves him to do this heartily and thoroughly, knowing as he does, that, if the latter, by his assistance, becomes finally victorious in the struggle, it means for him extinction of a deadly foe; it means the cessation of an annual tribute of victims, which, although lessened, is still considerable; and it especially means increased knowledge and power in dealing with other foes of a kindred nature.

If so Utopian a thing were possible that we could all be of one mind with regard to vaccination, if the good sense and intelligence of the people could be universally enlisted in support of those laws, which are enrolled on our statute book to the great benefit of suffering humanity, what might we not hope for in the future? Small-pox in this country might become a thing of the past, and future physicians, when regarding the mild malady that would have taken its place, might read almost incredulously of the past ravages of this terrible disease. If we examine those laws which have excited so much animosity among certain sections of us, what is there deserving of so much odium? We hear a good deal of the liberty of the subject being outraged; but when the landlord who lets unhealthy houses, the tradesman who sells tainted food, the infected person who wilfully exposes himself in public is rightly punished, we are not influenced by such prejudices.

Surely then, if there is truth in what I have stated, and in testifying to that truth I am only echoing the voice of the majority of those best qualified to express an opinion on this subject; if we do not believe that this is as some have not scrupled to state publicly, a great delusion; Jenner's life and work a bubble, that some of our greatest philosophers since his time have spent their lives in chasing shadows, and that the whole fabric of germ diseases and their pathology is but an idle fiction of the human mind; if, I say, we do not believe all this, we are forced to the conclusion that every unvaccinated person is a source of public danger; and surely public safety is a Supreme Law!

Perhaps you may have heard the argument of the opponent of vaccination, namely, that the believer in vaccination need not trouble himself about his incredulous fellow-citizen, as, if the theory be true, it will be the latter only who will suffer, and thus atone for his error by falling a victim to the disease without the safety of the former being in any way endangered; is not this like the argument of the madman who urged that he might set fire to his own house if he chose; as his neighbours, would be safe enough if they build their houses fire-proof, and have plenty of water at hand. If we know we are amply protected against some imminent danger we are not constrained to thrust ourselves into it, and as a fire by burning unchecked, acquires force, and begins to destroy what in its earlier stage it was unable to injure, so small-pox, when it comes as an epidemic in our midst, acquires a virulence that is wanting to it in its sporadic form; then, many who are protected against it in ordinary times, may find their armour insufficient. It is most necessary then to see it is as good as possible, not forgetting that vaccinial protection is apt to become lessened by time, but may be restored to all its early vigour by a judicious re-vaccination.

In conclusion, if my remarks have afforded interest to you, if I cause you to regard in another light, things you looked upon as unimportant before, if I have been able to make you think, as I do, that this is a subject that vitally affects our health and welfare as a nation, I trust you will, one and all, give your personal influence in public and private life, in upholding what are known as the Vaccination Acts. Many of you may do much when in pursuit of your professional callings, by pointing out to the parents of the child you may have brought into the world, the great necessity there is for its early vaccination; and as they would willingly guard that little one against dangers they can see, teach them the more urgent need of protecting it against the still greater, because unseen, danger. "Life is God's gift," is the motto of your Institution; and surely it is our duty to guard that gift in ourselves, and still more so in those helpless little ones who are committed to our charge, nor is it worthy of our intelligence to take no thought for perils except they stare us in the face, or, like the foolish Ostrich, turn away our heads and conclude that, because we do not see them, they are non-existent.